

Beach vegetation.—A detailed ecological study of the beach vegetation of that portion of the shores of Lake Michigan which extends from Waukegan, Illinois, to Kenosha, Wisconsin, has recently been made by GATES.³⁵ Unfortunately it contains little in the way of quantitative data upon the various factors involved, but as a record of the vegetation of this region it is an admirable and valuable contribution.

The lack of any definitely fixed conception of what constitutes the unit of vegetation known as a "plant association" is shown not only by the author's review of the literature upon the subject, but also by his subdivision of the vegetation of the very limited area under investigation into more than fifty different associations. Such a multiplication of associations indicates a danger of making the segregation upon a floristic rather than an ecological basis, and also points to the need of some well recognized subdivision of the association, and yet, even with the most conservative treatment, it is to be expected that a region such as this, representing as it does the meeting place of the northern conifer, the eastern deciduous, and the prairie plant provinces, would present an unusual number of vegetational types. The genetic relationship of these various associations is clearly indicated and exhaustive lists of species are given.—GEO. D. FULLER.

The black oaks.—At the meeting of the American Philosophical Society (Philadelphia) on April 19, 1912, Dr. TRELEASE discussed the classification of the black oaks. The abstract of his paper is as follows: Attention to bud and fruit characters has led to a classification of the black oaks quite different from their usual arrangement according to leaf-form, and five groups of species are recognized, three of the Eastern states, one of the Southwest, and one of the Pacific states. The eastern groups are the black oaks (black jack, turkey oak, Spanish oak, and quercitron), scarlet oaks (scarlet oak, gray oak, Hill's oak, red oak, Texas red oak, and bear oak), and swamp oaks, these of two sets, the water oaks (water oak, pin oak, and Stone Mountain oak) and willow oaks (shingle oak, willow oak, laurel oak, running oak, cinnamon oak, and myrtle oak). The Southwestern olive oaks (Emory's oak and the white-leaf oak) and the Californian holly oaks (evergreen oak, Highland oak, and Kellogg's oak) are less related to one another and to the eastern black oaks than these are to one another, and appear to have originated independently of them.

Nuclear phenomena in the Uredineae.—WEIR³⁶ has published a brief summary of the outstanding features of the Uredineae, which will be of service to those who wish a condensed outline of the nuclear conditions in the various stages of the life history of rusts.—J. M. C.

³⁵ GATES, FRANK C., The vegetation of the beach area in northeastern Illinois and southeastern Wisconsin. Illinois State Lab. Nat. Hist. 9:255-272. pls. 37-56. 1912.

³⁶ WEIR, JAMES R., A short review of the general characteristics and cytological phenomena of the Uredineae, with notes on a variation in the promycelium of *Coleosporium Pulsatillae* (Str.). New Phytol. 11:129-139. 1912.